

What is claimed is:

1. A mobile communications service providing system in which location registration request
5 information is transmitted from a mobile node to a home agent via a foreign agent and a server system, and information in reply to the location registration request information is returned from the home agent to the mobile node via the server system and the foreign agent, so
10 that a location of the mobile node is registered to the home agent and the foreign agent, and a mobile communications service is provided based on the registration, wherein:

the home agent and the foreign agent comprise a
15 controlling unit determining a transfer destination of a packet;

the server system comprises

an extracting unit extracting a service profile corresponding to the mobile node from a database
20 for managing a service profile which includes information for providing a service requested by the mobile node,

a service managing unit editing the service profile extracted by said extracting unit into a format that is available to said controlling unit, and

25 a distributing unit distributing the service

profile edited by said service managing unit to the home agent and the foreign agent, and

the home agent and the foreign agent provide a service by using said controlling unit according to the
5 service profile distributed from the server system.

2. The system according to claim 1, wherein
the server system does not distribute a service
profile to the home agent and the foreign agent, if the
10 mobile node does not request a value-added service, and

the home agent and the foreign agent provide a fundamental service according to information that the home agent and the foreign agent themselves generate.

15 3. The system according to claim 1, wherein:
an address range available for a predetermined service is specified beforehand;

a service profile including information representing the address range which is specified
20 beforehand is set in the home agent and the foreign agent as a condition for extracting a corresponding packet from among received packets; and

the server system assigns an address within the address range to the mobile node that requests the
25 predetermined service.

4. The system according to claim 1, wherein:
the server system comprises a home server device
which has a right to access the database in order to
5 extract the service profile for the mobile node, and
a foreign server device which does not have such an access
right; and

the home server device distributes the service
profile to the home agent and the foreign server device,
10 and the foreign server device forwards the service
profile to the foreign agent.

5. The system according to claim 1, wherein:
the server system comprises a home server device
15 which has a right to access the database in order to
extract the service profile for the mobile node, and
a foreign server device which does not have such an access
right; and

the home server device distributes the service
20 profile to the foreign server device, and the foreign
server device forwards the service profile to the home
agent and the foreign agent.

6. The system according to claim 1, wherein:
25 the server system comprises a home server device

which has a right to access the database in order to extract the service profile for the mobile node, and a foreign server device which does not have such an access right;

5 the mobile node notifies the home agent of location registration request information via a second foreign agent when moving from a communication area of a first foreign agent to a communication area of the second foreign agent;

10 the home agent updates information for routing a packet so that a packet addressed to the mobile node is transferred to the second foreign agent; and

 the foreign server device distributes the service profile to the second foreign agent.

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7. The system according to claim 1, wherein:

 the server system comprises a home server device which has a right to access the database in order to extract the service profile for the mobile node, and
20 first and second foreign server devices which do not have such an access right;

 the mobile node notifies the home agent of location registration request information via a second foreign agent, the second foreign server device, and the home
25 server device when moving from a communication area of

a first foreign agent managed by the first foreign server device to a communication area of the second foreign agent managed by the second foreign server device;

the home agent updates information for routing a
5 packet so that a packet addressed to the mobile node is transferred to the second foreign agent; and

the home server device distributes the service profile to the second foreign server device, which then forwards the service profile to the second foreign agent.

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8. The system according to claim 1, wherein:

the server system comprises a home server device which has a right to access the database in order to extract a service profile for the mobile node, and
15 first and second foreign server devices which do not have such an access right;

the mobile node notifies the home agent of location registration request information via a second foreign agent, the second foreign server device, the home server device, and the first foreign server device when moving
20 from a communication area of a first foreign agent managed by the first foreign server device to a communication area of the second foreign agent managed by the second foreign server device;

25 the home agent updates information for routing a

packet so that a packet addressed to the mobile node is transferred to the second foreign agent; and

the home server device distributes the service profile to the second foreign server device, which then
5 forwards the service profile to the second foreign agent.

9. The system according to claim 1, wherein:
upon receipt of the packet addressed to the mobile node from a correspondent node, the home agent
10 distributes to the correspondent node a service profile for extracting a packet in which the mobile node is set as a destination; and

the correspondent node generates information for transmitting to the foreign agent a packet which is
15 extracted according to the distributed service profile.

10. The system according to claim 1, wherein
when providing a service for transferring to an arbitrary mobile node among a plurality of mobile nodes
20 a packet with a virtual address assigned to the plurality of mobile nodes as a destination:

an address proxy server receiving the packet with the virtual address is arranged; and

the server system distributes to said address proxy
25 server a service profile for extracting the packet with

the virtual address is assigned and transferring the extracted packet to the particular mobile node among the plurality of mobile nodes, and also distributes to a foreign agent a service profile for transferring to
 5 the particular mobile node a packet addressed to the foreign agent which accommodates the particular mobile node.

11. A mobile communications service providing
 10 method with which location registration request information is transmitted from a mobile node to a home agent via a foreign agent and a server system, and information in reply to the location registration request information is returned from the home agent to the mobile
 15 node via the server system and the foreign agent, so that a location of the mobile node is registered to the home agent and the foreign agent, and a mobile communications service is provided based on the registration, wherein:

20 the home agent and the foreign agent comprise a controlling unit determining a transfer destination of a packet, the method comprising:

extracting, by the server system, a service profile corresponding to the mobile node from a database for
 25 managing a service profile which includes information

for providing a service requested by the mobile node;
 editing, by the server system, the extracted
 service profile into a format that is available to the
 controlling unit; and

5 distributing the edited service profile from the
 server system to the home agent and the foreign agent,
 and

the home agent and the foreign agent provide a
 service by using the controlling unit according to the
 10 service profile distributed from the server system.

12. A mobile communications service providing
 method with which location registration request
 information is transmitted from a mobile node to a home
 15 agent via a foreign agent and a server system, and
 information in reply to the location registration request
 information is returned from the home agent to the mobile
 node via the server system and the foreign agent, so
 that a location of the mobile node is registered to the
 20 home agent and the foreign agent, and a mobile
 communications service is provided based on the
 registration, the method comprising:

extracting, by the server system, a service profile
 corresponding to the mobile node from a database for
 25 managing a service profile which includes information

for providing a service requested by the mobile node;
editing, by the server system, the extracted
service profile into a format that is not dependent on
a service type; and

5 distributing the edited service profile from the
server system to the home agent and the foreign agent,
and

the home agent and the foreign agent provide a
service according to the service profile distributed
10 from the server system.

13. A mobile communications service providing
method used in a system which comprises a database for
managing a service profile which includes information
15 for providing a service requested by a mobile node, a
plurality of agents which can respectively accommodate
the mobile node, and a server which extracts a service
profile for the mobile node and distributes the extracted
service profile to the agents which accommodate the
20 mobile node, wherein:

the plurality of agents respectively comprise a
controlling unit determining a transfer destination of
a packet;

the server edits the service profile extracted from
25 the database into a format that is available to the

controlling unit arranged in the agents, and distributes the edited service profile to the agents which accommodate the mobile node; and

the agents which accommodate the mobile node
5 provide a service by using the controlling unit according to the service profile edited by the server.

14. A server system used in a mobile communications service providing system in which
10 location registration request information is transmitted from a mobile node to a home agent via a foreign agent and a server system, and information in reply to the location registration request information is returned from the home agent to the mobile node via
15 the sever system and the foreign agent, so that a location of the mobile node is registered to the home agent and the foreign agent, and a mobile communications service is provided based on the registration, said server system comprising:

20 an extracting unit extracting a service profile for the mobile node from a database for managing a service profile which includes information for providing a service requested by a mobile node;

a servicemanaging unit editing the service profile
25 extracted by said extracting unit into a format that

is available to a controlling unit for determining a transfer destination of a packet by the home agent and the foreign agent; and

5 a distributing unit distributing the edited service profile to the home agent and the foreign agent so that the home agent and the foreign agent provide a service by using the controlling unit according to the service profile edited by said service managing unit.

10 15. An agent device as a home agent or a foreign agent for use in a mobile communications service providing system in which location registration request information is transmitted from a mobile node to the home agent via the foreign agent and a server system,
15 and information in reply to the location registration request information is returned from the home agent to the mobile node via the server system and the foreign agent, so that a location of the mobile node is registered to the home agent and the foreign agent, and a mobile
20 communications service is provided based on the registration, said agent comprising:

a service-independent unit determining a processing method for a received packet according to header information of the received packet;

25 an individual service controlling unit using said

service-independent unit according to a service profile
edited into a format that is available to said
service-independent unit by the server system; and

a packet controlling unit processing a packet
5 according to a processing result of use of said
service-independent unit.

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